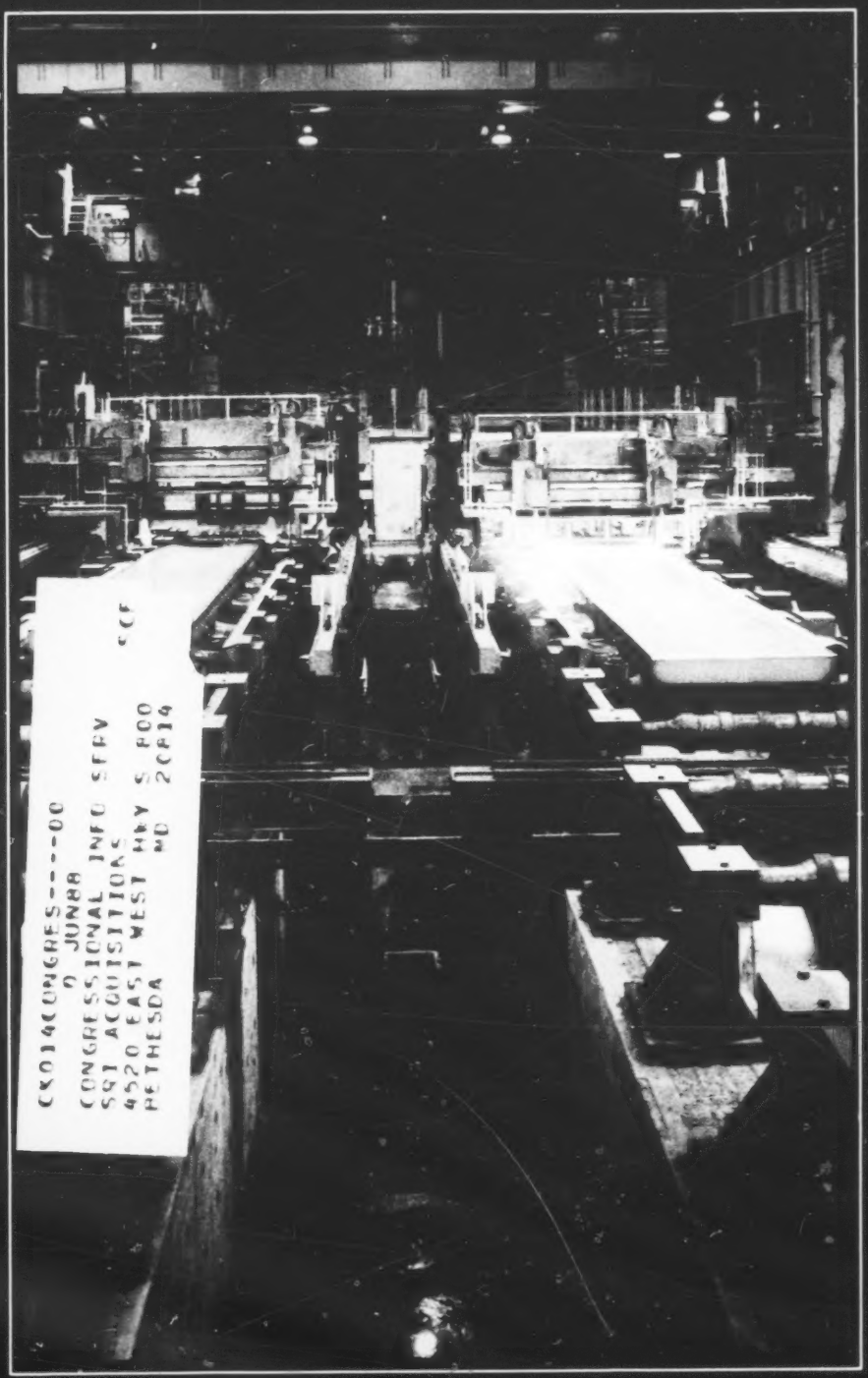
CHILTON'S

February 6, 1984

IRON AGE METALS PRODUCER



ROD & WIRE REPORT: COOL PRICES IN A HOT MARKET

THE HOT SPOT: HOW TWO EXECUTIVES SEE THE TRADE ISSUE

IN PLANT SPOTLIGHT: REPUBLIC'S NEW CLEVELAND CASTER

QUALITY: WHAT IT TAKES

FEBRUARY 6, 1984 VOL. 227, NO. 3

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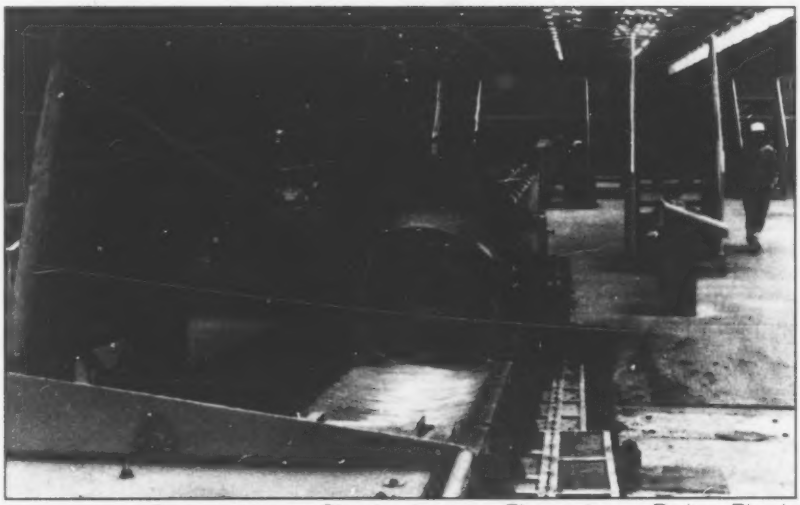

Cover photo: Republic's new Cleveland caster. Photo above: Raritan River's retarded cooling Stelmor line.

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more damage than the specialty steel restrictions, the U.S. would have no recourse but to fight back harder.

For the most part the Reagan Administration is opposed to world-wide quotas on steel but, obviously, gave in to the logic of specialty steel industry's case against the Europeans. Beyond the trade retaliation steel quotas would engender, said Commerce Secretary Malcolm Baldridge, it could well lead to calls for quotas from a multitude of other industries like autos and machine tools.

Richard P. Simmons, president of Allegheny Ludlum Steel Corp., and a leading force in the specialty steel industry, said the industry "is continuing investigations and other unfair trade practices by other countries and may file additional cases in the near future."

Spanish stainless steel makers face dumping suit

The future that Mr. Simmons foresaw arrived in the form of a dumping complaint filed by American stainless steel producers, charging that stainless sheet and strip from Spain is being dumped in the U.S.

Dumping margins of 9 to 37 pct were charged in the complaint filed jointly by nine specialty companies and United Steelworkers of America.

Named in the petition was ACERINOX, a Spanish company that recently completed an expansion program.

The action was the first since the Reagan Administration established a program to hold down specialty imports. The Administration set quotas, for stainless bar and rod, and tool steel imports and raised tariffs on stainless flat rolled products.

Domestic stainless sheet and strip producers had sought quotas and warned that the tariff boost would be ineffective.

The American producers now apparently feel the accuracy of their warnings has been shown. "It is apparent the Spanish producer is continuing to dump stainless sheet and strip in the United States despite the additional 10 pct tariff placed on these products by the President," said Mr. Simmons.

The domestic companies said stainless sheet and strip imports from Spain in the first 11 months of 1983 were up 64 pct over the 12 months of 1982. The Spanish shipments accounted for 18.2 pct of total stainless sheet and strip in the United States despite the additional 10 pct tariff.

Shipments of Spanish Stainless Steel

(sheet and strip products)

	Quantity in net tons	Pct of total imports
1980	96	0.3
1981	5,003	7.1
1982*	7,279	9.2
1983*	13,726	18.2

*includes first 11 months of year.

Source: Specialty Steel Industry of the United States

Bethlehem and USWA ask for steel import quotas

Asserting "there is absolutely no free trade in steel," Bethlehem Steel Corp., the nation's second largest steelmaker, and the United Steelworkers of America (USWA) are exhorting the Reagan Administration to clamp down on steel imports.

Bethlehem and the union are invoking Section 201 of the 1974 Trade Act. It allows U.S. industries to obtain government protection if they have been severely hurt by an increase in imports regardless of whether fairly or unfairly traded.

In petitions filed with the U.S. International Trade Commission (ITC), the steelmaker and the labor union have asked the Administration to curb steel imports—even those which are fairly traded—within eight months. They asked the ITC to speed its investigation of the complaint and recommend quotas to President Ronald Reagan within six months. Mr. Reagan then has two months to approve, change or dismiss the petition.

No major steelmaker has ever sought protection under this section of the Trade Act, the American Iron and Steel Institute observed. Institute President Robert Peabody told *Iron Age*, "the filing of the 201 petition will be helpful in as much as it serves to point out to the world community, decisionmakers in Washington and the American people the seriousness of the domestic industry's problem. It's too early for the AISI to evaluate what could be the advantage or disadvantages to the industry or to Bethlehem of such a move."

The Reagan Administration has been treading a fine diplomatic line between trying to appease the domestic industry and ease the anxieties of the European Economic Community. The Administration, in 1982, negotiated an export agreement with the Europeans which the EEC is now threatening to abrogate if Bethlehem and the USWA prevail in their petitions.

Other domestic steel producers are staying well clear of the injury petition filed by Bethlehem Steel and USWA.

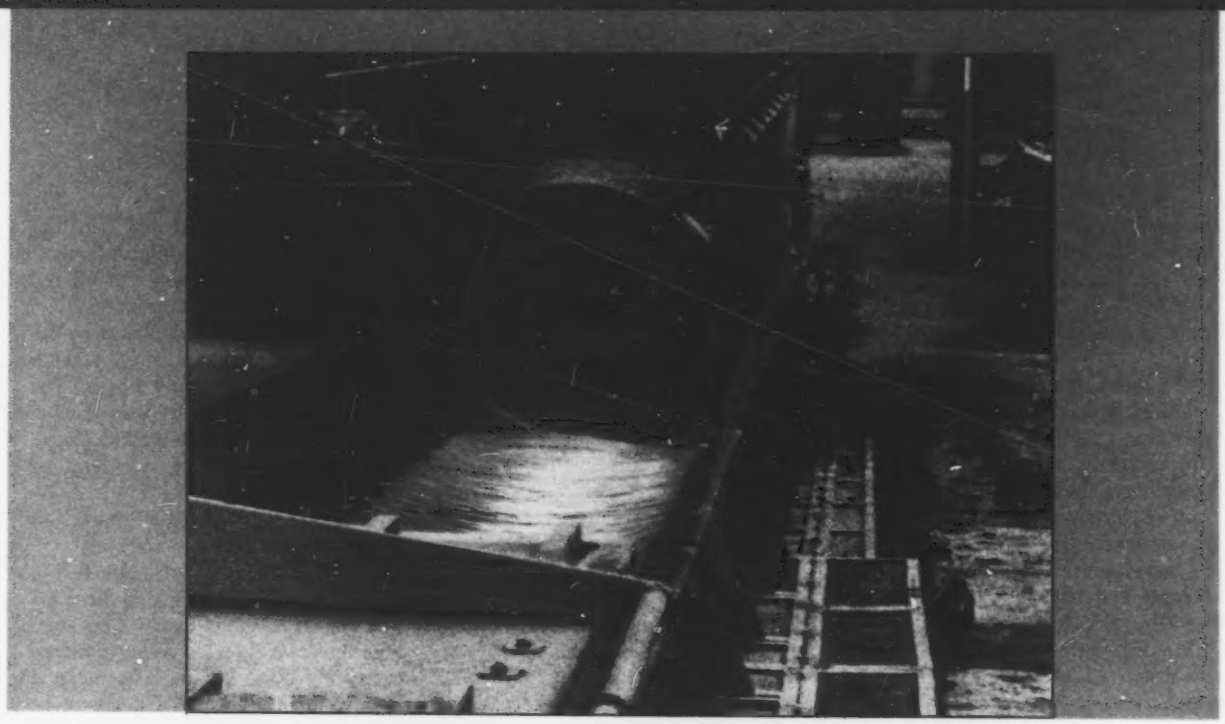
"We place great value on the voluntary restraint policies undertaken by our European allies and Japan," said Harry Holiday, chairman of Armco, Inc. "We hope they will recognize that this action need not affect them."

The 201 petition reflects a "high degree of frustration" domestic mills feel about imports, noted Julian Scheer, senior vice president, LTV Corp. "However, a 201 filing is not productive."

Among those not joining in the action are National Intergroup, Armco and Inland Steel Co. There has been no statement from United States Steel Corp., but earlier comments by David M. Roderick, its chairman, indicated opposition to the 201 complaint.

U.S. copper producers seeking import restrictions

At the start of a not-too-promising January for domestic copper producers, Phelps Dodge Corp. has called for revival of a drive for import protection as a shield against excess foreign production backed by Inter-



COOL PRICES IN A HOT MARKET

With a number of rod and wire mills closing, domestic capacity could eventually tighten the supply of all steel products. This situation could bring added pressure for additional imports into the United States market by foreign producers.

On Dec. 27, United States Steel Corp. announced it was closing nearly all its wire rod facilities.

Shortly before this, representatives of the independent West Coast wire companies argued in Washington, D.C. against curbs on rod imports. The companies said cuts in domestic capacity had left them stranded and unable to survive without imported rod.

This sequence is significant on a number of counts. For one thing, it may provide a forerunner of things to come in the whole steel market. Since the start of 1983, 15 million tons of domestic steel capacity have been liquidated or slated for liquidation.

The very rapid contraction of domestic capacity could eventually tighten the supply of all steel products. With a closer market balance, U.S. mills hope to be able to make some money. As the wire rod situation indicates, however, the actual effect could be to bring pressure for more imports.

The second interesting aspect of recent events is that they point up the dynamic state of the rod and wire business. This is certainly true in the technical sense; in the space of 10 years, the speeds of rod mills have doubled.

It is also true from a market standpoint. Rod and wire have enjoyed a vigorous growth pattern. With the overall steel industry operating under 60 pct in late 1983, the mini-mills that specialize in rods were producing at 100 pct.

"We've been operating 20 turns a week," said C.F. Nelson, Jr., vice president, sales and marketing, Atlantic Steel Co.

"We've had excellent months," said T.N. Tyrrell, vice president, marketing, Raritan River Steel Co.

The favorable conditions for wire and rod mean demand must be pretty good for the wire companies that use the rod. "Business has been good for us," said Jack Long, head of President's Island Steel Co. in Memphis, Tenn. "We're real worried about the domestic supply of rods with some of the mills closing down," Mr. Long added.

The wire business has been relatively good right along. In 1982, when steel shipments fell 30 pct, shipments of wire and wire products were off only 10 pct. As Mr. Long indicated, demand is now strong enough for the wire people to be concerned about rod supply.

In explaining the new market trend, Mr. Long cited such things as the swing back from plastics to wire for refrigerator racks. Others noted that wire has a broad market base.

"Wire is very diversified," said Calvin Taft, head of Gilbert and Bennett, Georgetown, Conn., and also president

BY GEORGE J. MCMANUS

of the American Wire Producers Association. "Whereas basic steel producers are tied to heavy construction," said Mr. Taft, "wire goes into a multitude of consumer and industrial products."

Severe spring weather hurt the home gardening products of Gilbert and Bennett in 1983. Demand is now "picking up a little."

If things are so great in the wire and rod, why are some people getting out of the business? The various reasons can be boiled down to one simple fact.

Price Trends

"The prices are God-awful," said J.B. McKinney, president of Laclede Steel Co. About 25 pct of Laclede's steel goes into rod and wire.

The rod mills are going through a painful transition during which their own prices are still depressed while scrap prices are shooting up. The combination of rising costs and strong demand is starting to have some effect.

Raritan River has had partial success in putting through increases, but not enough to keep up with scrap costs. "The problem," said Mr. Tyrrell, "is that rod prices are quoted 45 days ahead so there is a lag in catching up with costs."

As to why there should be price problems when people are afraid of shortages, part of the answer lies in the changing composition of the rod and wire fields.

The large, integrated mills have been withdrawing from both fields. The mini-mills have achieved a dominant position in rods with over 50 pct of the market. Independent companies have captured 65 pct of the wire business.

The other big factor is imported steel. Through October 1983, imported rod accounted for 29 pct of domestic supply. Imports are now reaching inland as well as coastal areas.

Imported wire products are also arriving in large quantities. "They already have 50 pct of the West Coast market," said Peter Suchman, a lawyer who is representing West Coast independents in Washington proceedings. "They have 23 to 25 pct of the U.S. market."

Mr. Suchman argued that low priced rod imports were needed in order for domestic companies to compete against imported wire. "If foreign rod suppliers were shut out or forced to raise their prices," he said, "the product business would go to offshore sources."

These comments were occasioned by the fair trade suits filed by five domestic rod companies: Atlantic Steel, Raritan River, Continental Steel Co., North Star Steel Texas and Georgetown Steel Corp.

Complaints against Brazil and Trinidad have been upheld and penalties were due to be levied in late December. The suits have effectively cut off rod imports from those countries.

Now pending are complaints by domestic rod producers against Argentina, Mexico, Poland and Spain. The West Coast independent wire companies, headed by Davis-Walker Corp., have intervened in these cases, arguing before the International Trade Commission that they need the foreign rod.

Import Question

With regard to imports, Mr. Taft of Gilbert and Bennett indicated there are two separate questions. "The suits aren't necessarily going to mean no rod comes in. What it's going to mean is the rod that comes in is going to be more expensive."

"This doesn't conflict with the position of the American Wire Producers Assn.," Mr. Taft said. "Our position has historically been, and still is, that we are for free and fair trade in wire rods. We want free access to world wire rod sources, but we also want those sources to trade their rod fairly and not dump or have a countervailing duty situation."

Mr. Taft added that West Coast companies had particular problems. "They have a special case out there in that they don't have U.S. rod mills."

"The question of dumping doesn't

U.S. CARBON WIRE & WIRE PRODUCTS MARKET—1967-1982

(BASED ON SHIPMENTS—IN ROD EQUIVALENT TONS)

(000 Net Tons)

Year	Domestic Rod Shipments	Pct of Total	W&WP* Shipments	Pct of Total	Total U.S. Shipments	Pct of Total	Import Rod Shipments	Pct of Total	Import W&WP Shipments	Pct of Total	Total Imports	Pct of Total	Total Shipments
1967	1286	18.9	3283	48.7	4529	67.6	1076	16.1	1098	16.4	2174	32.4	6703
1968	1339	17.1	3534	45.1	4873	62.2	1600	20.4	1358	17.3	2958	37.8	7831
1969	1623	21.2	3391	44.2	5014	65.4	1261	16.5	1394	18.2	2655	34.6	7669
1970	1681	23.5	3122	43.6	4803	67.1	1056	14.8	1296	18.1	2352	32.9	7155
1971	1587	21.4	2907	39.1	4494	60.5	1544	20.8	1391	18.7	2935	39.5	7429
1972	1919	24.1	3075	38.7	4994	62.8	1403	17.6	1556	19.6	2959	37.2	7953
1973	2040	24.4	3380	40.5	5420	64.9	1416	17.0	1512	18.1	1928	35.1	8348
1974	1861	21.0	3304	37.2	5165	58.2	1951	22.0	1759	19.8	3710	41.8	8875
1975	1298	22.5	2243	38.9	3541	61.3	1113	19.3	1118	19.4	2231	38.7	5772
1976	1901	27.5	2583	37.1	4484	64.5	1121	16.2	1332	19.3	2453	35.5	6917
1977	1804	24.3	2501	33.7	4305	58.1	1342	18.1	1768	23.8	3110	41.9	7415
1978	2554	30.9	1615	30.7	5169	60.8	1327	15.6	2012	23.6	3339	39.2	8508
1979	2881	35.2	2547	31.3	5408	66.5	985	12.1	1734	21.3	2719	33.5	8127
1980	2475	35.3	1857	26.0	4332	65.2	830	12.5	1479	22.2	2309	34.8	6641
1981	2549	40.0	1728	24.3	4575	64.2	888	12.5	1660	23.3	2547	35.8	7122
1982	2369	38.6	1374	22.4	3743	61.0	961	15.7	1428	23.3	2389	39.0	6132

*By w/r producers with captive rod mills.

Source: Dept. of Commerce. Submitted from testimony of West Coast Ad Hoc Carbon Steel Wire Producer Committee before the International Trade Commission.

arise," said Mr. Suchman, "if there is no injury to domestic mills."

As to the domestic supply sitution, there probably isn't yet a shortage. "There is ample capacity in this country to meet domestic requirements," said Roger R. Regelbrugge, chairman of Georgetown Steel Corp.

Nevertheless, it is true that a number of the rod mills are producing at very high rates. Both Raritan River and North Star Texas are hitting new production highs almost every month.

Georgetown Steel hasn't gone to the kind of maintenance or overtime schedule that might be employed in a boom market, but the company has little slack otherwise.

"When we're running, we're running flat out," said Mr. Reggelbrugge. "We're probably not running at full capacity, but we're not far from it."

It's also true there could be problems getting the right kind of rod. For appliance applications, President's Island Steel needs low carbon rod. "When supply tightens," said Mr. Long, "the mills tend to shift to high carbon rod, the premium products.

"There are spring applications where the customers want rimmed steel" he said. All the continuous cast steel of mini-mills is killed. With the tonnge mills withdrawing, rimmed material could soon be extinct in rod form.

Vulnerability

There is no question the wire companies feel vulnerable, particularly those in outlying areas. "Our main supplier is Raritan," said Mr. Long. "You always worry about being in Memphis, Tenn., with your main supplier in New Jersey.

In this setting, U.S. Steel is shutting down its rod mills. On paper, this is subtracting 2 million tons of capacity. As a practical matter, some of the capacity being officially retired has been sidelined for some time. U.S. Steel's rod mill at South Works hasn't operated since June 1981.

A second point is that the shutdown is part of the continuing shift of capacity from maxi-mills to mini-mills. This is literally true of one facility. U.S. Steel's rod mill at Pittsburg, California, is being revamped and installed at Kokomo, Ind., plant of Continental Steel. The mill is scheduled to begin operating this Spring.

(Cont. on p. 28)

Raritan Takes Another Giant Step

"We're going to bring our capacity up by 25 pct," said William J. Shields, president, Raritan River Steel Co.

At a time when many steel companies are shutting down facilities, Raritan River is expanding. Even more remarkable, the Perth Amboy, N.J., company is modernizing a steel plant that is one of the newest and most efficient in the world.

Raritan River began operating in 1980 with a high-powered electric furnace, a continuous caster and a high speed rod mill. Now, just four years later, all phases of the operation are being upgraded and updated.

One big step will be the conversion of the 150-ton electric furnace to the eccentric bottom tapping technology of Mannesmann Demag Corp. Scheduled for completion in July 1984, the conversion will boost melting capacity to 650,000 tons.

The billet size off the caster will be increased. Finishing speed of the rod mill will be boosted to 20,000 fpm. Initially rated for 600,000 tons a year, the rod mill will be able to roll 750,000 tons annually. Maximum coil size will be increased from 4,400 lbs to 4,700 lbs.

It's worth repeating that these changes are being made in an operation that is already highly efficient. Raritan River is making 150-ton heats in 103 minutes tap-to-tap. That comes to 73 tons an hour. Labor content of melting and rolling operatin is only about 1 1/2 man-hours a ton.

The new facilities and practices will give still greater productivity and will also promote high quality. With regard to quality, Mr. Shields emphasizes the link between electric furnace design and ladle metallurgy.

"Before you go into exotic metallurgy, you have to go to slag-free tapping," he said.

Facilities at Raritan River will expand by 25 pct said William T. Shields, president.

With the original bottom tapping design, it was impossible to prevent slag carry-over. The tap hole was in the center of the bottom and the furnace had to be emptied once metal started to flow.

As a way around this difficulty, the eccentric design was developed by Mannesmann Demag, August Thyssen and Det Danske Staalvalsevaerk. Here, the tap hole is located near the bottom of the furnace but off to one side. The hole is closed by a flap which is not in contact with the hot metal.

This arrangement makes it possible to operate with a hot heel in the furnace. Raritan River plans to leave about 10 tons of liquid steel in the furnace after each heat.

Advantages reported by Mannesmann Demag for eccentric bottom tapping include slag free tapping, reduced tapping time, reduced melting time and reduced refractory consumption.

Maximum coil size will increase from 4,400 lbs to 4,700 lbs at Raritan River.

Another portion of the subtracted capacity will be offset by brand new rod mills. A rod finishing train from Morgan Construction Co. is being added to a bar mill at Northwestern Steel & Wire Co. Startup will be in early 1984.

Finally, two new rod mills are under consideration for mini-mills.

None of this fully explains why some people are getting out of the rod business while other people are getting in. In announcing its withdrawal, U.S. Steel cited competition with the mini-mills and imports.

"The hourly employment costs at nonintegrated mills are as much as $9 below those of integrated producers," said David M. Roderick, U.S. Steel chairman.

The newest mini-mills make highly efficient use of their labor. According to one estimate, Raritan River needs only one and a half manhours to make a ton of finished rod.

When U.S. Steel was examining its facilities prior to the shutdown, a top executive came to a bar mill. "The mill was good as any in the world," he reportedly said, "but the steel had four manhours in it by the time it reached the mill.

The mini-mills operate on scrap, which was selling at low prices until recently. They are 100 pct continuous casting. And the newest mills have super-speed rod mills.

On this last point, it's important to note that U.S. Steel rod mills aren't all that old. A broad modernization in the mid-1970s saw new Morgan rod mills installed at South Works, and Pittsburg, Calif. Along with the Fairless mill built in the late 1970s, these mills were designed to finish at 10,000 fpm.

Next Generation

At the time, that seemed to represent something close to the ultimate. In the early 1950s, 5,000 fpm had been considered a high speed for a rod mill. Even today, no strip mill runs at more than 4,000 fpm.

In 1974, it became clear the next generation of rod mills would be still faster. A Morgan mill designed to finish at 15,000 fpm was ordered by Georgetown Texas Steel Corp. (Now North Star Steel Texas).

In 1977, a second Morgan mill designed for 15,000 fpm was ordered by Raritan River. This was equipped with pre-finishing stands.

In 1979, a Morgan mill designed for 15,000 fpm was ordered by Atlantic Steel. Prior to the startup of this mill, Atlantic had produced rod primarily for its own use; the company is one of the few integrated producers of merchant wire products. The new mill provided the capacity for outside rod sales.

In 1980, mills rated for 18,000 fpm were ordered by two Japanese companies.

Now in the final stages of construction is the Morgan finishing train at Northwestern Steel & Wire. Designed to roll at 20,000 fpm, this is being added to an existing 12-in. bar mill. Yearly capacity of rod and bar will be 450,000 tons.

The Northwestern rod mill will have interstand cooling and water cooling boxes integrated into a six-zone retarded cooling Stelmor line. Related facilities include a Morgan TF-1000 series compactor and four buttweld Fryer Tyers. Rod sizes will range from 0.218 to 0.625 in. Maximum coil weight will be 3,000 lbs, but the system is being built to handle 4,000 lbs coils.

Also designed for 20,000 fpm is a mill being built for the Mizushia Works of Kawasaki Steel Corp. This is being engineered by Morgan. It will be manufactured by Sumitomo Heavy Industries, Ltd., a licensee of Morgan.

These latest installations represent the state of the art. "The new mills are being stabilized on the order of 100 meters per second finishing speed for 5.5 mm and tonnages on the order of 100 metric tons per hour," said Paul S. Morgan, president of Morgan Construction. "That's on a per strand basis."

Mr. Morgan, whose company has been in the forefront of the rod mill revolution, compares these numbers with outputs of 30 tons an hour in 1965.

He feels there will now be a period in which designs are stable and operators learn to get the most out of the newest mills. He doesn't believe rod mill design has reached the ultimate.

The big breakthrough for rod mills came many years ago when Morgan developed the No-Twist TM design. By placing alternate stands at right angles, it was possible to eliminate rotation of rods. Loose jointed spindles and couplings were replaced with tight gearing systems. Single groove rolls provided rigidity.

Over the years, a combination of operator experience and improved design lifted rolling speeds. By the early 1970s, the limits of existing designs had been reached. It was at this point that the order from Georgetown-Texas brought on a new generation of mills.

World Record

After the Texas mill and its predecessors were installed, operators began the process of searching for maximum output. By July 1983, the twin strand mill of what is now North Star Steel Texas had rolled 64,369 tons for an average of 90.5 tons an hour. That was probably a world record.

"Those records all fell before the end of the year," said Robert Bullard, mill superintendent at the Texas plant. "In September, we set another record by rolling 65,025 tons for an average of 95.6 tons an hour. Then, in December we had our best turn ever of 1,059 tons of one-quarter in. rods."

Raritan River keeps bettering previous production highs, and the company now feels its capacity is 100,000 tons greater than was estimated earlier.

Going with the high speed mills has been progress in cooling and handling rod at the exit end. The big breakthrough in this area was the Stelmor process, developed by Stelco Inc. and Morgan. This takes rod and lays it out on a conveyor in loose loops.

With this arrangement it has been possible to develop highly refined cooling systems. The Northwestern Steel & Wire mill will have a six-zone retarded cooling Stelmor system along with cooling boxes ahead of the mill, between stands and after the mill. Water flow is regulated to give a specific temperature reduction before the rod hits the laying head.

At Raritan River, a prototype of what Morgan calls its Optiflex system has been installed. This provides three control stages for the air cooling system of the Stelmor line. Raritan calls the initial results "very encouraging."□

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PRICE & PRODUCTION DATA

(Effective January 23, 1984)

Steel production by districts, thousands of tons

(000 omitted)	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	206	205	188	158
Buffalo	10	9	8	30
Pittsburgh	253	234	204	158
Youngstown	111	114	95	82
Cleveland	130	133	135	89
Detroit	145	142	125	116
Chicago	517	496	453	381
Cincinnati	93	99	91	65
St. Louis	84	72	58	54
Southern	184	179	162	110
Western	69	79	81	70
U.S. Production	1,802	1,762	1,600	1,313

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural).....gross-ton 80.50-86.9*
Mesabi, regular-unscreened .....gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective January 23, 1984)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1984	To Date 1983
Net tons, in thousands	1,802	1,762	5,161	3,642
Capability Utilization Rate	69.7	67.7	66.6	41.9

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 9/1/83)	26.822	26.822	26.822	25.954
Pig Iron* * (Net ton = 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.* * * (Gross ton = 2240 lbs.)	$ 93.17	$ 92.50	$ 89.50	$ 61.50
No. 2 bundles	$ 60.83	$ 60.17	$ 58.17	$ 42.50

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh .	$ 97.50	$ 97.50	$ 96.50	$ 62.50
No. 1 steel, Philadelphia	91.50	89.50	86.50	59.50
No. 1 steel, Chicago.....	90.50	90.50	85.50	62.50
No. 1 bundles, Detroit ..	95.50	95.50	86.50	48.50
Low Phos., Youngstown	97.50	97.50	88.50	64.50
No. 1 mach'y cast., Pgh	79.50	79.50	79.50	61.50
No. 1 mach'y cast., Phila	100.50	100.50	97.50	98.50
No. 1 mach'y cast., Chi..	111.50	111.50	113.50	106.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
* *Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
* * *Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective January 23, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	81.00	76.00-81.00	9/27/83
Copper (C)	65.00	64.00-65.00	1/20/84
Lead	24.00-28.00	25.00-28.00	1/16/84
Magnesium Ingot	143.00	138.00	1/3/84
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	51.00	49.00-51.00	1/10/84

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$215.00
Beryllium-copper, per lb. cont. Be	$130.00
Beryllium 97% powder 200	$178.00
Bismuth, ton lots	$1.65-$1.80
Cadmium, ton lots	$1.25
Calcium, ton lots, crown	$3.05
Chromium, 99.8%	$3.75
Cobalt, 99%, cathode	$12.50
Gold per troy oz.	$371.35
Indium, dollars per troy oz.	$2.43-$2.65
Iridium, dollars per troy oz.	$600
Magnesium sticks, 10,000 lbs.	$1.91
Mercury, per 76-lb. f.o.b. N.Y.	$310-$330
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$5.85
Nickel oxide sinter at U.S. points of entry	$3.12
Palladium, per troy oz.	$140
Platinum, per troy oz.	$475
Rhodium, per troy oz.	$600.00
Silver ingots, per troy oz.	$8.17
Vanadium	$6.00
Zirconium sponge	$12.00-$17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Jan. 16—564.99 Jan. 19—565.12
Jan. 17—564.73 Jan. 20—565.12
Jan. 18—564.86

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	61⅛	60
Yellow brass	57	57
Red brass	58⅜	58
Comm. bronze	59¼	58¼
Mang. bronze	59¾	57¾
Free cutting rod ends	57	56

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	58
No. 2 copper wire	50
Light copper	41

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	54
No. 2 copper wire	46
Light copper	37
No. 1 composition	52
No. 1 comp. turnings	50
Hvy. yellow brass solids	32
Hvy. yellow brass turnings	28
Radiators	42

Aluminum

New mixed clips	52	—53
Old sheet	50	—51
Old cast	50	—51
Clean dry borings	50	—51

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	41	—42
Mixed L.C. clips	37	—38
Old sheets and cast	34	—35
Borings and turnings	26	—27
Duraluminum clippings	28	—29

Copper and Brass

No. 1 copper wire	48	—49
No. 2 copper wire	40	—41
Light copper	36	—37
Radiators	33	—34
No. 1 composition	42	—43
No. 1 composition turn'gs	40	—41
Cocks and faucets	28	—29
Clean heavy yellow brass	25	—29
Brass Pipe	28	—29
New soft brass clippings	41	—42

Lead

Heavy soft lead	8	— 9
Whole batteries	3	— 4
Type metal	15	—16
Electrotype	13	—14

Nickel

Nickel solids	110	—120
Nickel rod ends	110	—120
Nickel sheets, clips	110	—120
Nickel turnings	50	— 60

Zinc

New zinc clippings	15	— 16
Old diecast zinc	10	— 11

EFFECTIVE JAN. 23, 1984

(Effective January 23, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 97.00 to	$ 98.00
No. 2 hvy. melting	86.00 to	87.00
No. 1 dealer bundles	119.00 to	120.00
No. 1 factory bundles (auto)	122.00 to	123.00
No. 2 bundles	59.00 to	60.00
No. 1 busheling	119.00 to	120.00
Machine shop turn.	16.00 to	17.00
Shoveling turnings	50.00 to	51.00
Cast iron borings	49.00 to	50.00
Low phos. punchings plate	119.00 to	120.00
Heavy turnings	86.00 to	87.00
No. 1 RR hvy. melting	116.00 to	117.00
Rails 2 ft. and under	121.00 to	122.00
Scrap rails, random lgth.	107.00 to	108.00
RR specialties	115.00 to	116.00
No. 1 machinery cast	79.00 to	80.00
Cupola cast	72.00 to	73.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	590.00 to	600.00
18-8 turnings	490.00 to	500.00

Chicago

No. 1 hvy. melting	$ 90.00 to	$ 91.00
No. 2 hvy. melting	84.00 to	85.00
No. 1 dealer bundles	114.00 to	115.00
No. 1 factory bundles (auto)	114.00 to	115.00
No. 2 dealer bundles	61.00 to	62.00
No. 1 busheling	114.00 to	115.00
Shredder scrap	103.00 to	104.00
Machine shop turn.	49.00 to	50.00
Mixed bor. and turn.	50.00 to	51.00
Shoveling turnings	60.00 to	61.00
Cast iron borings	61.00 to	62.00
Low phos. forge crop	120.00 to	121.00
Low phos. punchings plate ¼ in. and heavier	130.00 to	131.00
Low phos. 2 ft. and under	125.00 to	126.00
No. 1 RR hvy. melting	109.00 to	110.00
Scrap rails, random lgth.	102.00 to	103.00
Reroller rails	112.00 to	113.00
Rails, 2 ft. and under	125.00 to	126.00
RR couplers and knuckles	108.00 to	109.00
RR car axles	129.00 to	130.00
No. 1 machinery cast	111.00 to	112.00
Cupola cast	105.00 to	106.00
Stove plate	106.00 to	107.00
Steel car wheels	114.00 to	115.00
Stainless		
18-8 bundles and solids	540.00 to	550.00
18-8 turnings	440.00 to	450.00
430 bundles and solids	130.00 to	135.00
430 turnings	95.00 to	100.00

Philadelphia

No. 1 hvy. melting	$ 90.00 to	$ 93.00
No. 2 hvy. melting	77.00 to	90.00
No. 1 dealer bundles	102.00 to	105.00
No. 2 dealer bundles	60.00 to	63.00
No. 1 busheling	107.00 to	110.00
Shredder scrap	100.00 to	103.00
Machine shop turn.	29.00 to	32.00
Mixed bor. and turn.	29.00 to	32.00
Shoveling turnings	48.00 to	51.00
Low phos. 5 ft. and under	102.00 to	105.00
Low phos. 2 ft. punchings	120.00 to	123.00
Electric furnace bundles	117.00 to	120.00
RR specialties	107.00 to	110.00
Rails, 2 ft. and under	122.00 to	125.00
Cupola cast	73.00 to	76.00
Heavy breakable cast	55.00 to	57.00
No. 1 machinery cast	99.00 to	102.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 71.00 to	$ 72.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	95.00 to	96.00
No. 2 bundles	47.00 to	48.00
No. 1 busheling	94.00 to	95.00
Drop forge flashings	68.00 to	69.00
Machine shop turn.	35.00 to	36.00
Mixed borings and turn.	22.00 to	23.00
Shoveling turnings	35.00 to	36.00
Cast iron borings	44.00 to	45.00
Heavy breakable cast	35.00 to	36.00
Mixed cupola cast	51.00 to	52.00
Automobile cast	74.00 to	75.00
Stainless		
18-8 bundles and solids	480.00 to	490.00
18-8 turnings	370.00 to	380.00
430 bundles and solids	130.00 to	140.00

Youngstown

No. 1 hvy. melting	$ 89.00 to	$ 92.00
No. 2 hvy. melting	69.00 to	72.00
No. 1 dealer bundles	103.00 to	106.00
No. 2 dealer bundles	37.00 to	40.00
Machine shop turn.	14.00 to	17.00
Shoveling turnings	19.00 to	22.00
Low phos. plate	96.00 to	99.00
Electric furnace bundles	91.00 to	94.00
Galvanized bundles	85.00 to	88.00

Cleveland

No. 1 hvy. melting	$ 82.00 to	$ 85.00
No. 2 hvy. melting	50.00 to	53.00
No. 1 dealer bundles	100.00 to	103.00
No. 1 factory bundles	103.00 to	106.00
No. 2 bundles	25.00 to	28.00
No. 1 busheling	99.00 to	102.00
Machine shop turn.	13.00 to	16.00
Mixed bor. and turn.	13.00 to	16.00
Shoveling turnings	15.00 to	18.00
Cast iron borings	18.00 to	21.00
Cut structural & plates, 2 ft. and under	117.00 to	120.00
Low phos. punchings plate	117.00 to	120.00
Drop forge flashings	62.00 to	65.00
Foundry steel, 2 ft. & under	70.00 to	75.00
No. 1 RR hvy melting	87.00 to	90.00
Rails, 2 ft. and under	117.00 to	120.00
Rails, 18 in. and under	118.00 to	121.00
Steel axle turnings	67.00 to	70.00
Railroad cast	94.00 to	97.00
No. 1 machinery cast	97.00 to	100.00
Cupola cast	63.00 to	66.00
Stove plate	48.00 to	51.00
Stainless		
18-8 bundles	375.00 to	385.00
18-8 turnings	325.00 to	335.00
430 bundles	80.00 to	85.00

Buffalo

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 77.00 to	$ 78.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 busheling	87.00 to	88.00
No. 1 dealer bundles	88.00 to	89.00
No. 2 bundles	40.00 to	41.00
Machine shop turn.	15.00 to	16.00
Mixed bor. and turn.	13.00 to	14.00
Shoveling turnings	20.00 to	21.00
Cast iron borings	20.00 to	21.00
Low phos. plate	91.00 to	92.00
Structural and plate, 2 ft. and under	95.00 to	96.00
Rails, 2 ft. and under	97.00 to	98.00
Scrap rails, random lgth.	77.00 to	78.00
No. 1 machinery cast	75.00 to	76.00
No. 1 cupola cast	59.00 to	60.00

St. Louis

No. 1 hvy. melting	$ 82.00 to	$ 83.00
No. 2 hvy. melting	71.00 to	72.00
Foundry steel, 2 ft.	71.00 to	72.00
No. 1 dealer bundles	82.00 to	83.00
No. 2 bundles	68.00 to	69.00
Machine shop turn.	22.00 to	23.00
Shoveling turnings	29.00 to	30.00
Cast iron borings	40.00 to	41.00
No. 1 RR hvy. melting	92.00 to	93.00
Rails, random length	86.00 to	87.00
Rails, 18 in. and under	102.00 to	103.00
RR specialties	95.00 to	96.00
Cupola cast	74.00 to	75.00
Heavy breakable cast	53.00 to	54.00
Stove plate	85.00 to	86.00
Cast iron car wheels	57.00 to	58.00
Rerolling rails	102.00 to	103.00
Unstripped motor blocks	64.00 to	65.00

Birmingham

No. 1 heavy melting	$ 80.00 to	$ 81.00
No. 2 heavy melting	74.00 to	75.00
No. 1 dealer bundles	85.00 to	86.00
No. 2 bundles	60.00 to	61.00
No. 1 busheling	84.00 to	85.00
Shredder scrap	105.00 to	106.00
Machine shop. turn.	39.00 to	40.00
Shoveling turnings	48.00 to	49.00
Cast iron borings	45.00 to	46.00
Electric furnace bundles	74.00 to	75.00
Elec. furnace, 3 ft. & under	79.00 to	80.00
Structural and plate, 2 ft.	109.00 to	110.00
Structural and plate, 4 ft.	109.00 to	110.00
No. 1 RR hvy. melting	109.00 to	110.00
Scrap rails, random lgth.	101.00 to	102.00
Rails, 18 in. and under	117.00 to	118.00
Angles and splice bars	109.00 to	110.00
No. 1 cupola cast	95.00 to	96.00
Unstripped motor blocks	80.00 to	81.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 75.00 to	$ 76.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	88.00 to	89.00
No. 2 bundles	44.00 to	45.00
Machine shop turn.	15.00 to	16.00
Shoveling turnings	17.00 to	18.00
Cast iron borings	27.00 to	28.00
Low phos. 18 in. and under	113.00 to	114.00
Rails, random length	91.00 to	92.00
Rails, 2 ft. and under	107.00 to	108.00
No. 1 cupola cast	80.00 to	81.00
Heavy breakable cast	41.00 to	42.00
Drop broken cast	93.00 to	94.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 46.00 to	$ 47.00
No. 2 hvy. melting	40.00 to	41.00
No. 2 dealer bundles	23.00 to	27.00
Mixed bor. and turn.	11.00 to	13.00
Machine shop turn.	6.00 to	7.00
Shoveling turnings	14.00 to	15.00
Clean cast. chem. borings	35.00 to	36.00
No. 1 machinery cast	89.00 to	90.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	500.00 to	520.00
18-8 turnings	400.00 to	420.00
430 prepared solids	90.00 to	110.00
410 solids	80.00 to	90.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 62.00 to	$ 64.00
No. 2 hvy. melting	52.00 to	54.00
No. 1 dealer bundles	76.00 to	78.00
No. 2 bundles	40.00 to	42.00
No. 1 busheling	80.00 to	82.00
Shredder scrap	78.00 to	80.00
Machine shop turn.	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	90.00 to	95.00
Mixed cupola cast	47.00 to	49.00
Heavy breakable cast	18.00 to	20.00

San Francisco

No. 1 hvy. melting	$ 48.00 to	$ 50.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	35.00 to	36.00
No. 2 dealer bundles	17.00 to	19.00
Machine shop turn.	6.00 to	8.00
Cast iron borings	6.00 to	8.00
No. 1 cupola cast	76.00 to	78.00

Los Angeles

No. 1 hvy. melting	$ 50.00 to	$ 52.00
No. 2 hvy. melting	40.00 to	42.00
No. 1 dealer bundles	39.00 to	40.00
No. 2 dealer bundles	19.00 to	21.00
Machine shop turn.	6.00 to	8.00
Shoveling turnings	10.00 to	12.00
Cast iron borings	6.00 to	8.00
Elec. furnace, 1 ft. and under (foundry)	75.00 to	77.00
No. 1 cupola cast	75.00 to	77.00

Seattle

No. 1 hvy. melting	$ 73.00 to	$ 75.00
No. 2 hvy. melting	62.00 to	64.00
No. 2 bundles	42.00 to	44.00
No. 1 cupola cast	98.00 to	100.00
Mixed yard cast	85.00 to	87.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 82.00
No. 2 heavy melting cut 2 ft. and under	77.00
No. 1 dealer bundles	87.00
No. 2 bundles	48.00
Mixed steel scrap	59.00
Bush. new fact. prep'd.	85.00
Bush. new fact. unprp'd.	75.00
Machine shop turn.	40.00
Short steel turn.	43.00
Mixed bor. and turn.	30.00
Cast scrap	68.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 87.00 to	$ 88.00
No. 2 hvy. melting	71.00 to	72.00
No. 2 bundles	44.00 to	45.00
Machine shop turn.	23.00 to	24.00
Crushed turnings	47.00 to	48.00
Shredder scrap	87.00 to	88.00
Cut structural plate 2 ft. and under	94.00 to	96.00
Unstripped motor blocks	62.00 to	63.00
Cupola cast	86.00 to	87.00

PRODUCER KEY
With Principal Offices

A4 American Cladmetals Co., Carnegie, Pa.
A7 Armco Inc., Middletown, Ohio
A8 Atlantic Steel Co., Atlanta, Ga.
A11 Atlantic Wire Co., Branford, Conn.

B1 Baron Drawn Steel Corp., Toledo, Ohio
B3 Bethlehem Steel Corp., Bethlehem, Pa.
B4 Blair Strip Steel Co., New Castle, Pa.
B5 Bliss & Laughlin Steel Co., Harvey, Ill.

C1 Calstrip Corp., Los Angeles
C6 CF&I Steel Corp., Pueblo, Colo.
C10 Copperweld Steel Co., Warren, Ohio
C11 Crucible Divisions, Colt Industries, Pittsburgh, Pa.
C15 G. O. Carlson, Inc., Thorndale, Pa.
C18 Connors Steel Co., Birmingham, Ala.
C20 Calumet Steel Div., Chicago Heights, Ill.
C21 Cumberland Steel Co., Cumberland, Md.

D1 Detroit Strip Div., Cyclops Corp.
D2 Driver Wilbar B., Co., Newark, N. J.
D3 Driver Harris Co., Harrison, N. J.

E3 Enamel Products & Plating Co., McKeesport, Pa.
E4 Elliot Bros. Steel Co., New Castle, Pa.

F1 Firth Sterling, Inc., McKeesport, Pa.

G2 Granite City Steel Co., Granite City, Ill.
G3 Great Lakes Steel Division, National Steel Corp., Ecorse, Mich.
G4 Greer Steel Co., Dover, O.
G5 Green River Steel Corp., Owensboro, Ky.
G6 Gibraltar Steel Corp., Buffalo, N. Y.
G7 Georgetown Steel Corp., Georgetown, S. C.
G8 Guterl Special Steel Corp.

H1 Hercules Drawn Steel Corp., Livonia, Mich.

I2 Ingersoll Steel Div., New Castle, Ind.
I3 Inland Steel Co., Chicago, Ill.
I4 Interlake Steel Corp., Chicago

J2 Jessop Steel Corp., Washington, Pa.
J3 Jones & Laughlin Steel Corp., Pittsburgh
J4 Joslyn Mfg. & Supply Co., Chicago
J5 Judson Steel Corp., Emeryville, Calif.

K1 Kaiser Steel Corp., Fontana, Calif
K2 Keystone Consolidated Industries, Inc.
K3 Kentucky Electric Steel Co., Ashland, Kentucky
K5 Kemco Div., Foote Mineral Co., Keokuk, Iowa

L2 La Salle Steel Co., Chicago
L3 Lone Star Steel Co., Dallas
L4 Lukens Steel Co., Coatesville, Pa.
L5 Litho-Strip Corp., Chicago

M2 McLouth Steel Products Corp.
M4 Mid States Steel & Wire Co., Crawfordsville, Ind.
M8 Mill Strip Products Div., National Steel Service Center, National Steel Corp.
M9 Moltrup Steel Products Co., Beaver Falls, Pa.
M11 Midwest Steel Div., National Steel Corp., Portage, Ind.

N1 Northeast Precision Steel Co., Boston, Mass.
N4 Northwestern Steel & Wire Co., Sterling, Ill.
N8 Northwest Steel Rolling Mills, Seattle, Wash.
N9 Nelsen Steel & Wire Co., Chicago, Ill.
N10 North Star Steel Co., Saint Paul, Minnesota

O2 Oregon Steel Mills, Portland, Ore.

P2 Phoenix Steel Corp., Claymont, Del.
P9 Pacific States Steel Co., Niles, Cal
P13 Penn Dixie Steel Corp., Kokomo, Ind.
P14 Pacific Tube Co., Los Angeles
P15 Philadelphia Steel and Wire Corp., Phila.

R3 Republic Steel Corp., Cleveland
R4 Ramco Steel Co., Buffalo, N. Y.
R5 Roblin Steel Corp., Inc., North Tonawanda, N. Y.
R6 Rodney Metals, Inc., New Bedford, Mass.
R7 Rome Strip Steel Co., Rome, N. Y.

S1 Sharon Steel Corp., Sharon, Pa.
S7 Stanley Works, New Britain, Conn.
S8 Superior Drawn Steel Co., Monaca, Pa.
S10 Seneca Steel Service, Buffalo, N. Y.
S16 Southern Precision Steel Co., Gulfport, Miss.

T4 Thomas Steel Strip Co., Warren, O.
T5 Timken Company, Steel Division, Canton, O.
T7 Texas Steel Co., Fort Worth, Tex.
T9 Triumph Electro Corp., Chicago, Ill.
T10 Tennessee Forging Steel Corp., Harriman, Tenn.
T11 Teledyne Columbia-Summerill, Carnegie, Pa.

U1 United States Steel Corp., Pittsburgh, Pa.

W3 Weirton Steel Division, National Steel Corp., Weirton, West Va.
W5 Wheeling-Pittsburgh Steel Corp.
W7 Wilson Steel & Wire Co., Chicago
W10 Wyckoff Steel Div., Ampco-Pittsburgh Corp., Pittsburgh, Pa.
W14 Whittaker Steel Strip Div., Detroit, Mich.

STEEL SERVICE CENTER PRICES

Price, Dollars per 100 lb

Prices are based on list prices reported to *Iron Age* by a number of metal service centers deemed representative by *Iron Age* and then weighted based in part on the reports received each month. Prices are not intended to reflect the actual transaction prices obtained by any individual metal service center.

Cities*	Sheets			Strip	Plates	Shapes	Bars		Alloy Bars			
City Delivery Charge*	Hot-Rolled (10 gage)	Cold-Rolled (20 gage)	Galvanized (16 gage)	Hot-Rolled Strip	Plates	Standard Structurals	Hot-Rolled (merchant)	Cold Finished	Hot-Rolled 8620 As Rolled	Hot-Rolled 4140 Annealed	Cold-Drawn 8620 As Rolled	Cold-Drawn 4140 Annealed
Atlanta	25.00	30.96	31.78	31.07	22.91	23.45	18.58	31.44	34.34	50.60	69.58	73.19
Baltimore	25.72	30.36	36.58	40.02	28.03	28.10	20.86	38.10	56.93	64.92	71.71	75.93
Birmingham	21.90	31.94	32.06	31.12	22.43	24.77	18.68	30.94	49.31	68.90	68.16	74.43
Boston	30.28	34.98	38.72	45.18	32.96	30.04	21.20	36.15	46.35	53.12	62.70	65.60
Buffalo	28.01	34.45	39.13	40.89	30.94	27.55	18.52	37.20	40.10	47.82	55.33	60.11
Chicago	27.40	32.86	35.53	31.18	23.27	23.88	16.93	32.73	36.08	40.45	45.39	51.08
Cincinnati	26.32	31.88	34.49	30.09	23.18	24.34	16.65	30.75	36.03	40.33	45.58	50.75
Cleveland	27.27	33.08	34.78	33.98	24.20	25.09	17.90	32.31	38.64	40.98	44.02	50.75
Denver	33.55	39.20	39.36	36.89	31.85	28.45	20.43	45.41	49.83	60.27	68.31	75.60
Detroit	27.17	33.31	36.11	32.71	25.31	25.95	17.40	31.66	36.14	40.44	45.84	55.47
Houston	30.75	35.57	39.76	43.81	30.71	27.97	22.03	42.44	47.15	53.78	59.26	64.61
Kansas City	27.91	32.66	36.70	48.19	25.50	28.28	18.18	34.59	42.39	47.57	53.50	65.04
Los Angeles	28.22	34.66	38.45	48.58	33.36	36.24	29.34	40.58	57.47	65.04	71.25	74.68
Memphis	25.07	31.39	33.06	33.37	25.89	27.30	18.99	34.76	36.78	49.96	59.80	69.44
Milwaukee	27.33	33.21	35.02	30.89	23.37	23.32	16.43	31.22	35.57	41.53	44.87	55.07
New York	28.31	35.22	39.44	45.47	31.43	28.12	20.17	41.14	46.00	51.91	61.12	68.72
Philadelphia	28.80	33.98	39.38	44.20	31.75	28.51	19.74	39.64	46.31	54.81	65.15	70.83
Pittsburgh	31.07	37.29	40.06	42.61	33.96	29.51	20.41	31.80	46.10	53.06	60.27	68.22
Portland	25.66	32.00	38.17	31.11	31.04	34.76	27.50	44.85	49.78	57.74	70.44	....
San Francisco	28.75	34.89	38.60	48.50	33.96	29.92	25.60	41.59	59.18	67.87	74.44	82.67
Seattle	23.96	28.33	34.68	34.27	22.24	27.49	24.86	40.73	54.41	71.57	75.28	81.67
Spokane	21.00	30.34	34.28	37.91	33.00	33.75	21.60	43.01	43.20	47.52	....	58.32
St. Louis	27.11	32.85	35.09	32.25	24.89	22.86	17.16	33.26	37.68	42.41	49.84	53.36
St. Paul	26.61	30.79	33.85	36.25	25.14	23.92	17.00	33.42	36.16	41.16	45.76	52.07

Base Quantities. All HR products may be combined for quantity. Hot-rolled sheet, 10 ga x 36 x 96—120; Cold-rolled sheet, 20 ga x 36 x 120; Galv. sheet—16 ga x 36—120; Hot-rolled strip—⅛" x 1"; Plate ¼" x 84/; Shapes—I-Beams 6 x 12.5; Hot-rolled bar—Rounds ¾-2^{15}/$_{16}$; Cold finished bar—C 1018—1" rounds; Alloy bar—Hot-rolled 8620—1⅝" round; Cold drawn—1" round; Hot-rolled 4140—1⅝" round; Cold drawn—1" round. Check local supplier for additions or deductions from base.

*Prices at all points include metropolitan delivery charges.

Codes identify Producers listed in the Key on page 71. (Prices quoted are mill base prices in cents per pound unless otherwise noted and do not reflect extras or surcharges.) N.A. = Not available.

Billets, Blooms, Slabs

(Dollars per net ton)

Carbon Rerolling, Midwest	
W5	$366.00
N4	$366.00
West	
C6	$346.00
Carbon Forging, East	
B3(3), C10, U1	$453.00
R3	$453.00
Midwest	
R3, U1, W5	$453.00
S1	$420.00
C10	$453.00
K2	$453.00
W5	$453.00
West	
B3(2)	$463.00
C6	$453.00
South	
A7	$453.00
Alloy, East	
R3, C10	$492.00
B3	$492.00
Midwest	
W8, W5, C10	$492.00
U1	$492.00
R3	$492.00
S1	$459.00
West	
B3	$502.00
C6	$469.00
South	
A7	$492.00

Piling Sheet Steel

(cents per lb)

Midwest	
U1	26.45

Structurals

Carbon, East	
B3(2)	23.90
U1, J3	23.90
Midwest	
A7	24.15
C20	22.90
W8	22.90
I3, T10, U1, N4	23.90
West	
C6	25.10
U1	24.40
B3(2)	21.65
South	
C16, U1	23.90
T10	22.90
A8	Cmp*
High-Strength, Low Alloy, East	
B3(2)	23.90
U1, J3	23.90
Midwest	
N4	23.90
W8	24.15
U1	23.90
I3	23.90
West	
U1, A7	24.40
B3(2)	21.65
South	
U1, C16	23.90
Wide Flange, Carbon, East	
B3	23.90
U1, A7, J3	23.90
Midwest	
U1	23.90
N4	23.90
I3	23.90
West	
U1	24.40
C6	24.15
South	
A7	24.15

Strip

Hot-Rolled, Carbon, Cut II Edge—all widths, East	
U1, B3	23.75
J3	22.05
Midwest	
A7, D1	22.05
I4	21.45
J3, D1	22.05
W3	22.05
N4	22.55
W5, S1	23.75
U1, B3	23.75
G2, I3, M2, R3, G3	22.05
West	
B3	26.55
South	
R3	22.05
Cold-Rolled, Carbon Max. 25%, East	
E4	29.75
S10	29.60
P15	24.80
U1	38.30
B4	33.60
Midwest	
I4	35.30
W14	32.80
S1, J4	34.05
S1	37.05
High-Strength, Hot-Rolled, Low Alloy, Cut Edge & Mill Edge—all widths, (plus extras)*	
Midwest	
M2, G3, R3, W3, I4, J3, G2, I3	22.05
A7	22.05
S1	23.75
South	
R3	22.05
High-Strength, Cold-Rolled, Low Alloy, Mill Edge	
Midwest	
S1	37.05
Alloy, Hot-Rolled, Midwest (plus extras)*	
S1	24.60
I4	23.70
Alloy, Cold-Rolled, East	
C11, E4, M8	43.35
B4	47.25
P15	32.10
Midwest	
I4	41.80
S1	42.30

Sheets

Hot-Rolled, Carbon (18 Ga & Hvyr), East	
B3	23.75
J3	22.05
U1	23.75
Midwest	
A7, G2, G3, I3, M2, R3, W3	22.05
D1	22.05
J3	22.05
I4	21.15
U1, W5, S1, B3	23.75
West	
U1	24.25
South	
R3	22.05
Cold-Rolled, East, Class I	
B3(2)	28.15
J3	26.15
U1	28.15
Midwest	
I3, G3, R3, M2	26.15
G2, W3, M11	26.15
I4	22.00
J3, A7	26.15
D1	26.15
U1, W5, S1, B3	28.15
West	
U1	28.65
South	
R3	24.65
Galvanized (hot-dipped), East	
B3(2)	30.30
U1	30.30
Midwest	
J3, D1	28.00
I3	28.00
A7, R3, Y1	28.00
G2, W3, M11	28.00
U1, W5, S1	30.30
West	
U1	30.80
South	
R3	28.00
Enameling, Midwest	
U1, S1	29.65
A7, I3, J3	27.65
Long-Terne, Midwest	
W5	31.65
U1	31.65
R3, A7	29.35

†Actual weight basis

Wire Rod

East	
B3(2)	22.35
U1	22.35
Midwest	
N4	22.35
U1, K2	22.35
West	
A7	22.00
C6	21.45
South	
G7	22.35

Tinplate

Electrolytic Tinplate

Single Reduced (70 lb)	
East	**per base box**
J3	$26.29
U1	27.74
B3	26.32
Midwest	
U1	$27.74
J3	26.29
M11	26.29
W3	26.29
W5	26.29
West	
U1	$28.24
South	
U1	$27.74
Double Reduced (55 lb)**	
Midwest	
M11	$21.49
J3	21.49
U1	22.37
W3	21.49
W5	21.49
West	
U1	$22.87
South	
U1	$22.37
Black Plate	
Single Reduced (75 lb)*	
East	
B3	$23.83
Midwest	
J3	$24.01
M11	24.01
I3, W5	24.01
W3	24.01
U1	25.26
West	
U1	$25.26
Double Reduced (55 lb)	
East	
B3	$19.70
Midwest	
M11	$18.93
W5	18.93
J3	18.93
W3	18.93
W5	18.93
U1	19.70
West	
U1	$19.70
South	
U1	$19.70

*70 lb—base weight extra 45¢
**50 lb—base weight extra $1.40

Bars

Carbon Steel, Hot-Rolled (Special quality)	
East	
R3, K3	25.80
R5	25.80
B3(3), J3	25.80
U1, C10	25.80
Midwest	
A7	23.95
U1, I3, I4, C20, N4	25.80
R3, T10	25.80
K2	25.80
I3	19.50*
West	
B3	25.80
C6	24.45
South	
A8	20.65
A7	25.80
C16	25.80
Cold-Finished Carbon, East	
A11	22.15
R3	33.75
C21	21.15
J3(4), L2	31.00
C2	23.025
M8, W10, T11, S8	31.00
N1	24.475
R4	33.25
B4	31.00
M1	23.025
B4, C10	31.00
Midwest	
B5, W10, Y1, W8, R3, M9	33.25
J3	31.00
B1	33.45
L2	30.75
N9	31.00
P3	19.85 + CMS
W14	22.20
J3(3)	31.00
J3	31.00
West	
B5	34.90
R3	37.15
South	
B5	32.85
J3	34.00
C16	24.40
J3	31.95
Alloy, Hot-Rolled, East	
B3(2), R5, K3, C10, U1	27.95
R3	27.95
J3	27.95
Midwest	
A7, U1, R3	27.95
I3, C10	27.95
I4	24.85
I3	21.00*
West	
B3	27.95
B5	18.50
C6	26.60
South	
A7	24.85
A8	22.00
Alloy, Cold Drawn, East	
L2	35.20
R3, N1, C2	37.90
M1	28.025
R4	37.10
A11	30.50
J3, W10, L2	34.85
T11, S8	34.85
C10	34.85
J3(2)	34.25
Midwest	
R3, C10	37.35
C2	28.275
J3, W10	34.85
P3	22.75
B1	37.30
N9	34.85
L2	34.65
B5	37.10
J3	36.00
J3	34.85
M9	37.10
West	
R3	40.75
South	
J3	35.85
C16	28.00

Plates

Carbon Steel, East	
B3(2), U1	25.75
L4	25.75
P2	25.75
J3	26.75
Midwest	
B3, R3, S1	25.75
I3	24.25
J3, A7	22.80
U1, I4	25.75
R3	26.75
West	
A7, C6	24.25
U1, B3, O2	25.75
South	
R3	25.75
A7	25.75
U1	25.75
Alloy, East	
B3, J3	33.55
U1, L4	33.55
P2	33.55
J3	34.55
Midwest	
B3	33.55
G2, G3	33.55
I4, U1	33.55
West	
B3	32.05
O2	33.55
South	
A7	27.55
U1	33.55

Wire

Carbon Steel Wire, East	
B3(2)	27.10
U1	27.70
A11	22.15
Midwest	
U1	27.70
A7, R3	24.60
N4, W7	27.40
K2	24.20
South	
A8	22.85
West	
A7	25.95
C6	24.95

PRICES CONTINUE THEIR SLOW CLIMB

Producer prices in December continued the moderate pace they have followed through much of 1983.

December prices rose only 0.2 pct from November. That follows a 0.2 pct decline in prices of finished goods in November, but was in line with the average monthly increase since May. The index of intermediate product prices, those used in various stages of production, showed no change after rising slightly in October and November.

Crude material prices rose 1.1 pct, mainly reflecting increases in iron and steel, natural gas, and iron and steel scrap. These prices, which have posted a 15.8 pct increase for 1983 compared with 1982, are frequently considered an important indicator of future production costs.

Prices of passenger vehicles and heavy motor trucks showed virtually no change in December. The light trucks category was down 0.3 pct.

Capital equipment prices showed little change in December. Prices rose for metal cutting and metal forming machine tools as well as industrial process furnaces and railroad equipment. Construction and farm machinery, and fluid power equipment prices were unchanged from November levels.

A look at the figures for December show that only one category—light motor trucks—was down compared with November. Eleven were unchanged; the remaining 10 were up, with the increases ranging from 0.1 pct to 1.6 pct for metal forming machine tools.

The U.S. Bureau of Labor Statistics' figures put the producer price increases for 1983 up by the smallest increment in 20 years. A 10 pct drop in gasoline prices and a 15.8 pct fall in heating oil costs helped to keep the lid on inflation in the past year.

The 0.6 pct unadjusted rise from December 1982 to December 1983 was a moderate pace when compared to a 3.7 pct increase in 1982 and 7.1 pct boost in 1981.

Latest Month Covered: December, 1983

Products	Index Reading For Month (1967 = 100)	Pct Change From Previous Month	Pct Change From Year-Ago Month
Metal Cutting Machine Tools	379.3	+ 0.6	+ 1.9
Metal Forming Machine Tools	422.6	+ 1.6	+ 2.7
Agricultural Machinery & Equip.	329.8	0	+ 2.8
Construction Machinery & Equip.	353.7	0	+ 1.6
Industrial Process Furnace & Ovens	369.1	+ 0.2	+ 3.5
Industrial Material Handling Equip.	286.5	+ 0.2	+ 0.1
Pumps, Compressors & Allied Equip.	346.3	+ 0.3	− 0.6
Fluid Power Equip. (Dec. 1970 = 100)	254.3	0	+ 1.9
Mechanical Power Transmission Equip.	320.4	+ 0.5	+ 2.7
Automobiles	222.0	0	+ 1.3
Motor Trucks—Light	280.0	− 0.3	+ 1.7
Motor Trucks—Heavy	317.7	0	+ 0.1
Railroad Equipment	357.3	+ 0.5	+ 1.9
Fabricated Metal Structural Products	304.9	0	+ 0.1
Electric Motors	336.0	+ 0.1	+ 5.9
Valves & Fittings	100.1	0	+ 0.1
Ball & Roller Bearings	333.2	0	− 0.6
Cutting Tools & Accessories	275.8	0	+ 1.3
Heating Equipment	245.6	+ 0.2	+ 2.6
Plumbing Fixtures & Brass Fittings	293.6	0	+ 5.2
Metal Containers	338.2	0	+ 3.0
Miscellaneous Metal Products	289.3	+ 0.1	+ 2.2

Data based on U.S. Labor Dept.'s Producer Price Index